



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/583,560

12/27/2006

Dino Lombino

26224

8887

22889

7590

12/23/2010

OWENS CORNING
2790 COLUMBUS ROAD
GRANVILLE, OH 43023

EXAMINER

GRAY, JILL M

ART UNIT

PAPER NUMBER

1798

NOTIFICATION DATE

DELIVERY MODE

12/23/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USIPDEPT@owenscorning.com

Office Action Summary	Application No.	Applicant(s)	
	10/583,560	LOMBINO ET AL.	
	Examiner	Art Unit	
	Jill Gray	1798	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Pursuant to the entry of the amendment of October 1, 2010, the status of the claims is as follows: Claims 1-23 are pending.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Temple et al., 5,670,255 (Temple) or Schell 5,824,413, each in view of Gonthier et al., 2004/0265586 A1 (Gonthier), further in view of Das et al., 4,477,496 (Das).

Temple '255 discloses a glass strand coated with an aqueous sizing composition comprising, as film forming agents, further disclosing that suitable film formers can be polyesters, polyurethanes, vinyl polymers, and mixtures thereof. See entire document, and for example, abstract, column 15, lines 39-43, and column 24, lines 18-45. In addition, Temple '255 discloses that the vinyl polymer can be commercially available polyvinyl acetate. Note column 17, lines 56-60.

Schell discloses glass strands coated with an aqueous coating composition comprising a polyurethane. See entire document, and for example, abstract, column 2, lines 65-67 and column 4, lines 56 through column 5, and line 3. In addition, Schell discloses that additional film forming polymers can be present such as polyester or vinyl polymers, and mixtures thereof, wherein the vinyl polymers can be polyvinyl acetate. See column 8, lines 25-33 and column 9, lines 43-47.

Temple '255 and Schell are as applied above but do not teach the specific formation of the polyester polymer or the molecular weight or the specific amounts of each component.

Gonthier teaches glass strands coated with an essentially aqueous sizing composition which comprises a polyurethane and a polyester. See entire document and for example, abstract. In addition, Gonthier teaches that his polyester is produced by the reaction of a carboxylic acid and/or anhydride and a polyol, as required by present claim 3. The polyol can be a polyalkylene glycol and the anhydride can be maleic anhydride, as required by present claim 4. See [0028]. Gonthier is silent as to the specific molecular weight of his polyester.

Das teaches a sizing composition and glass fibers sized therewith comprising one or more crosslinkable film formers present in the sizing composition as the predominant amount of the solids, an amino containing silane coupling agent and an epoxidized thermoplastic copolymer. See entire document, and for example, column 4, lines 34-65. The predominant film former can be polyester, and the epoxidized thermoplastic copolymer can be epoxidized polyurethane and/or epoxidized polyvinyl acetate. See column 8, lines 20-36, and column 13, lines 40-61.

Temple '255, Schell, Das and Gonthier are each drawn to glass strands coated with aqueous sizing compositions, wherein said compositions comprise polyurethane and polyester film forming polymers. Thus, Temple '255, Schell, Das and Gonthier are in the same field of endeavor and thus are analogous art.

Regarding claims 1, 18, and 21, Temple '255, Schell and Das each teach sizing compositions for glass strands comprising polyester, polyvinyl acetate and polyurethane, glass fibers sized therewith and the formation of composite parts. As to the specific amounts of each film forming component, the prior art clearly teaches that sizing compositions comprising a combination of polyester, polyvinyl acetate and polyurethane are known. In addition, Das teaches the desirability for the sizing composition to contain polyester in predominate amounts (the compositions of Gunthier reflect this as well). These teachings provide a suggestion to the skilled artisan for sizing composition containing polyester as the predominate component. Accordingly, it is the examiner's position that since the results sought, namely, the formation of a size composition for glass fibers that has improved opening at chopping, and the ingredients used were known, in particular, a combination of film formers comprising polyester, polyurethane and polyvinyl acetate, it was within the expected skill of one having ordinary skill in this art to arrive at the optimum proportion of those ingredients, and, any improved results alleged by applicant would have resulted from experimentation of an obvious nature and are nothing more than one would expect. *In re Reese*, 129 USPQ 402.

Regarding claims 3, 4, 6, it would have been obvious to one having ordinary skill in the art to use as the polyester of Temple '255 or Schell a polyester that is produced by the reaction product of a carboxylic acid or anhydride with a polyol, essentially as claimed and as taught by Gonthier. The motivation for doing so, at the time the invention was made, is that it has been held that the combination of two known

Art Unit: 1798

compositions each of which is taught by the prior art to be used for the same purpose to form a third composition that is to be used for the very same purpose may be *prima facie* obvious. MPEP 2144.06.

Regarding claims 2, 5, 7, drawn to the molecular weight range of the polyester, it is the position of the examiner that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA 1955).

Regarding claims 8-12 and 16-17, the inclusion of various additives such as coupling agents, lubricants and antistatic agents are known additives in sizing composition and would have been obvious to include. Moreover, note Temple '255 column 18, lines 6-68, which discloses the specific lubricant, coupling agent and the application of an antistatic agent.

Regarding claim 13, Gonthier teaches a loss on ignition of less than 1.5%. See [0035]. This teaching would render obvious the invention of present claim 13.

Regarding claim 14, Gonthier teaches filament diameters of from 9 to 16 μm . See [0039]. This teaching would render obvious the requirement of present claim 14.

Regarding claim 15, Gonthier teaches the strands having a tex between 15 and 60 tex. See [0040]. This teaching would render obvious the requirement of present claim 15.

Regarding claim 19, Temple '255 teaches an amount of silane coupling agent that is preferably about 0.1 to about 15 weight percent. See '255 column 19, lines 23-27.

Regarding claim 20, Temple '255 teaches a solids content of about 0.01 to about 30 wt%. See column 14, lines 28-45.

Regarding claims 22-23, Temple '255 teaches a composite formed from a polyester matrix material having a glass content of 30% by weight. See column 26, lines 50-59.

Therefore, the combined teachings of Temple and Gonthier or Schell and Das would have rendered obvious the invention as claimed in present claims 1-23.

Response to Arguments

4. Applicant's arguments filed October 1, 2010 have been fully considered but they are not persuasive.

Applicants argue that Temple recites an extensive and virtual endless laundry list of potential film formers and there must be some suggestion or motivation provided within the reference for one of skill in the art to select the particular components.

In this regard, Temple, at column 15, lines 56-61, 10 examples of the thermoplastic and thermosetting film-forming materials and mixtures thereof. Clearly a list of 10 cannot be construed as an extensive and virtual endless laundry list of potential film formers. Claim 1 is not specific as to any particular type of polyester, polyvinyl acetate or polyurethane. Hence, the skilled artisan is not required to consider the specific types of the broad film formers taught by Temple. Also, it should be noted that Table 1 discloses compositions comprising polyurethanes and polyesters.

Applicants argue that there is no teaching or suggestion within Das of a polyurethane or polyvinyl acetate film forming agent and Gonthier does not mention the

Art Unit: 1798

use of polyvinyl acetate and that Temple, Gonthier and Das do not teach or suggest the claimed film forming agents.

In this regard, it is the position of the examiner that the test for obviousness under 35 U.S.C. 103 is not the express suggestion of the claimed invention in any or all of the references but what the references taken collectively would suggest. *In Re Conrad*, 169 USPA 170 (CCPA 1971). In the present case, the combined references would suggest that mixtures of film formers can be used, and more importantly, that mixtures of polyester, polyvinyl acetate and polyurethane could be used with a reasonable expectation of success. Moreover, the combination of two compositions, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition that is to be used for the very same purpose may be *prima facie* obvious. *In re Kerkhoven*, 625 R.2d 864, 850, 205 USPQ 1069, 1072 (CCPA 1980).

Applicants argue that Temple, Gonthier and Das do not teach or suggest the claimed ranges.

The examiner disagrees for the reasons previously stated and incorporated herein. In particular, the prior art clearly suggests a sizing composition comprising polyester, polyvinyl acetate and polyurethane. Accordingly, the combination of these ingredients is known in the art. Hence, since the result sought and the ingredients used were known, it was within the expected skills of one having ordinary skill in this art to arrive at the optimum proportion of those ingredients and any improved results alleged

Art Unit: 1798

by applicants would have resulted from experimentation of an obvious nature. *In re Reese*, 129, USPQ 402 (CCPA 1961).

Applicants argue that Schell does not teach or suggest including a polyester in the present claimed amount.

In this regard, it is the position of the examiner that the teachings of Schell are relied upon for all that he would reasonably convey to one having ordinary skill in this art, namely, that compositions comprising polyurethanes, polyester and polyvinyl acetates are known. As to the amount of each component, the examiner's position is as set forth above and incorporated herein. In particular, the prior art clearly suggests a sizing composition comprising polyester, polyvinyl acetate and polyurethane. Accordingly, the combination of these ingredients is known in the art. Hence, since the result sought and the ingredients used were known, it was within the expected skills of one having ordinary skill in this art to arrive at the optimum proportion of those ingredients and any improved results alleged by applicants would have resulted from experimentation of an obvious nature. *In re Reese*, 129, USPQ 402 (CCPA 1961).

Applicants' arguments with respect to the dependent claims has been noted.

In response thereto, the examiner disagrees for reasons stated above and incorporated herein.

No claims are allowed.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1798

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/
Primary Examiner
Art Unit 1798

jmg